Remarks

Applicants include herewith a petition for a one-month extension of time and the appropriate fee in terms of an online credit card charge form, and hereby authorize the Office to add or subtract any difference.

Claims 14-23 are cancelled in light of the restriction requirement. Claims 24-30 are added, but no additional fees are due because of the cancellation of claims 14-23.

Independent claim 29 is very similar to claim 7, and includes features from other dependent claims previously presented.

In the Specification

Applicant has corrected an obvious typographical error in the specification by changing "tons" to --pounds– as indicated.

In the Claims

Applicants have amended claims 1 and 9 to correct an obvious error of the emergency disconnect package being referred to as the disconnect mechanism.

Claim Rejections - 35 USC § 103

Claims 1-13 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Edwards 6,032,252.

To expedite the examination, Applicants have grouped claims where the arguments are substantially identical even though there may be some variations in the underlying claims. Applicants also note that some arguments are duplicated due to similar basis for rejection, and

apologizes in advance for duplicated arguments.

Claim 1:

Argument 1 that the reference does not render Applicants' claim 1 obvious:

> In order to establish a prima facie case under 35 U.S.C. 103(a) all the claim limitations must be taught or suggested by the prior art. The showing must be clear and particular. See, e.g., *C.R. Bard*, 157 F.3d at 1352, 48 USPQ2d at 1232. See M.P.E.P. 2143.03.

The Office Action states that all elements of claim 1 are shown in Edwards, except for the claimed exceptionally large bore of Applicants two valves, which the Office Action states is an obvious variation. In fact, Edwards does not show the elements discussed below. If the rejection is to be maintained, Applicants respectfully request that the Examiner should specifically point out the claim elements listed below, preferably clearly referencing the Edwards specification or drawings by number. Otherwise, Applicants submit the rejection is clearly traversed because the showing is not clear and particular.

1) Edwards does not disclose any details of an emergency disconnect package (EDP) as claimed. Edwards casually mentions that his device might include an EDP in col. 9, lines 48-50, in a housing between "the structural housing (Applicants presume housing 28 but cannot be sure) and the riser 36. In any case, it is extremely clear that Edwards does not show a hydraulically actuated valve as part of the EDP, in addition to the two large bore valves which Applicants also claim as part of the lower package. Moreover, Edwards does not tell us whether or not his two valves 39 and 40 are part of the EDP. Presumably, Edwards intends to use valves 39 and 40 to seal off the borehole if there is a need for use of an emergency disconnection. To leave the borehole open would appear to be environmentally disastrous. However, Edwards provides no explanation whatsoever as to these claimed components.

2) Edwards does not show a disconnect mechanism comprising a first portion and a second portion, which portions are selectively separable as claimed. In fact, Edwards does not show any details of a disconnect mechanism.

Accordingly, Edwards clearly does not show a connection between this first portion of the disconnect mechanism to a lower package, as lower package is defined by claim 1. Edwards clearly does not show a connection between the second portion of the disconnect mechanism and an emergency disconnect package, as emergency disconnect package is defined by claim 1.

3) If the Office Action is asserting that Edwards two valves 39 and 40 are part of the EDP, which Edwards does not state one way or the other, then Edwards does not show Applicants' two large bore valves within a lower package. Edwards valves 39 and 40 cannot be part of the EDP and simultaneously also be part the lower package, because this would not satisfy the language of Applicants' claim 1. According to Applicants' claim 1, there must be two large bore valves located in the lower riser package, which must be separable from the EDP using the specified type of disconnect mechanism specifically described in claim 1 (which is also not shown in Edwards).

4) Edwards does not disclose large bore valves that are operable to cut tubing, in addition to wireline and coiled tubing. This is a major distinction, and it will be appreciated that such a limitation might be disastrous if Edwards were used with tubing and, in an emergency it was found that Edward's valves do not cut tubing. Apparently, Edwards limits operation to safe use only with wireline and coiled tubing. So far as is known by Applicants, Applicants' valves, which are shown in greater detail in a parent application, are the only known subsea valves, other than BOPs, which have been certified for offshore work in cutting tubing.

Because the above elements of claim 1 cannot be said to be clearly and particularly shown as apparently assumed in the Office Action, and in fact are not shown at all in Edwards, the rejection is respectfully traversed.

Argument 2 that the reference does not render Applicants' claim 1 obvious:

An obviousness analysis requires consideration of "whether the prior art would also have revealed that in so making or carrying out [the claimed invention], those of ordinary skill would have a reasonable expectation of success."; *In re Dow Chemical Co.*, 837 F.2d 469, 473, 5 USPQ2d 1529, 1531 (Fed. Cir. 1988).

The Office Action proposes that it is obvious to provide any size valve bore in the intervention package. The Office Action states that Applicants did not disclose that any particular size valve bore is related to particular problems or purposes.

Applicants respectfully submit that both of the above statements are incorrect.

For example, paragraph 7 of Applicants' published application begins with the sentence "The maximum internal diameter is a critical dimension for an intervention package..." Clearly, Applicants have pointed out the importance of this dimension.

Problems of providing the claimed dimension are well known, long standing, and difficult to those of skill in the art. In fact, so far as is known, Applicants' downhole valve is the only large bore valve, other than a BOP, to be certified as capable of cutting tubing, as well as coiled tubing and wireline. Yet, the claim language clearly rules out the BOP as an option. The weight and size of the intervention package are obvious problems when designing valve internal bore size. Edwards is further restricted because valves 39 and 40 must fit within a valve housing that must then fit within housing 28. For instance, the Examiner may wish to explain how Edwards will simply increase the size of connectors 24 and 28 in particular, as well as the other components, and still remain within the required weight range. It will also be appreciated that pressure acting on seals (which must also operate to cut without damaging the seals) increases exponentially with valve diameter. This seal must be able to operate along with the cutting function, a problem that is greatly exacerbated with increased bore size. It is also well known that merely taking a large valve that works on the surface, sealing off the valve housing, and placing it in a subsea environment does not provide a solution because sea depth internal and external hydrostatic

pressures operating on the valve components will normally render the valve inoperable either immediately or over time.

Edwards does not reveal how those of ordinary skill in the art will have a reasonable expectation of success in solving the above and/or many other problems. In fact, the Office Action concludes that Edwards does not disclose this element at all.

Recently published examination guidelines promulgated by the USPTO to assist Office personnel in making a proper determination of patentability of claims under the obviousness standards of 35 U.S.C. 103(a), and being based on *KSR International Co v Teleflex, Inc* require:

> The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reasons why the claimed invention would be obvious.

The guidelines set forth seven rationales to support an obvious rejection and findings of fact that must be articulated for each rationale. The guidelines do not set forth a rationale whereby it is obvious to one of skill in the art to make a modification that overcomes a difficult, long-standing, unsolved problem without any explanation as to how one of skill will overcome the problem. Neither the Office Action nor Edwards provide any teachings or explanation, as is required to explain how the solution to such a difficult, long-standing problem can be solved by merely changing dimensions or other routine experimentation, when that procedure has clearly not yielded results in the past. Accordingly, the rejection is respectfully traversed.

Claims 2, 8, and 10

> An obviousness analysis requires consideration of "whether the prior art would also have revealed that in so making or carrying out [the claimed invention], those of ordinary skill

would have a reasonable expectation of success."; *In re Dow Chemical Co.*, 837 F.2d 469, 473, 5 USPQ2d 1529, 1531 (Fed. Cir. 1988)

The Office Action proposes that it is obvious to provide any size valve bore in the intervention package. The Office Action states that Applicants did not disclose that any particular size valve bore is related to particular problems or purposes.

Applicants respectfully submit that both of the above statements are incorrect.

Looking at Applicants published application, paragraph 7 begins with the sentence "The maximum internal diameter is a critical dimension for an intervention package..," thereby emphasizing the importance of this dimension.

Problems of providing the claimed dimension are well known, long standing, and difficult to those of skill in the art. In fact, so far as is known, Applicants' downhole valve is the only large bore valve, other than a BOP, to be certified as capable of cutting tubing, as well as coiled tubing and wireline. Yet, the claim language clearly rules out the BOP as an option. The weight and size of the intervention package are obvious problems when designing valve internal bore size. Edwards is further restricted because valves 39 and 40 must fit within a valve housing that must then fit within housing 28. For instance, the Examiner may wish to explain how Edwards will simply increase the size of connectors 24 and 28 in particular, as well as the other components, and still remain within the required weight range. It will also be appreciated that pressure acting on seals (which must also operate to cut without damaging the seals) increases exponentially with valve diameter. This seal must be able to operate along with the cutting function, a problem that is greatly exacerbated with increased bore size. It is also well known that merely taking a large valve that works on the surface, sealing off the valve housing, and placing it in a subsea environment does not provide a solution because sea depth internal and external hydrostatic pressures operating on the valve components will normally render the valve inoperable either immediately or over time.

Edwards does not reveal how those of ordinary skill in the art will have a reasonable

expectation of success in solving the above and/or many other problems. In fact, the Office Action concludes that Edwards does not disclose this element at all.

Recently published examination guidelines promulgated by the USPTO to assist Office personnel in making a proper determination of patentability of claims under the obviousness standards of 35 U.S.C. 103(a), and being based on *KSR International Co v Teleflex, Inc* require:

> The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reasons why the claimed invention would be obvious.

The guidelines set forth seven rationales to support an obvious rejection and findings of fact that must be articulated for each rationale. The guidelines do not set forth a rationale whereby it is obvious to one of skill in the art to make a modification that overcomes difficult, long standing problems without any explanation as to how one of skill will overcome such problems. Neither the Office Action nor Edwards provide any teachings or explanation, as is required, to explain how the solution to such difficult, long standing problems can be solved by merely changing dimensions or other routine experimentation. Accordingly, the rejection is respectfully traversed.

Claim 3:

> An obviousness analysis requires consideration of "whether the prior art would also have revealed that in so making or carrying out [the claimed invention], those of ordinary skill would have a reasonable expectation of success."; *In re Dow Chemical Co.*, 837 F.2d 469, 473, 5 USPQ2d 1529, 1531 (Fed. Cir. 1988

The Office Action concludes that Edwards does not disclose a lower package that weighs between ten and thirty tons. However, as noted above in discussing the shortcomings of

Edwards, it is not certain that Edwards discloses a lower package as specifically required by the claim language, much less its weight. Given the longstanding and difficult problems of limiting weight when working on subsea installations, it is not an obvious design problem to merely build a "lower package" with a weight within this range. The problem is that the package must perform a required function. As noted by both Edwards and Applicants, the only solution ever found in the prior art was the use of BOPs, which are not within this weight range. Accordingly, the proposed claim is not obvious because one of ordinary skill in the art did not previously know how to solve the problem.

Claims 4 and 11:

> In order to establish a prima facie case under 35 U.S.C. 103(a) all the claim limitations must be taught or suggested by the prior art. The showing must be clear and particular. See, e.g., *C.R. Bard*, 157 F.3d at 1352, 48 USPQ2d at 1232. See M.P.E.P. 2143.03.

The Office Action states that Edwards shows an emergency disconnect package (EDP) in FIG. 1 that is operable to seal the lower end of the riser, if the disconnect mechanism is activated.

Edwards does not disclose a mechanism for sealing the lower end of the riser as required by claims 4 and 11. With all respect, Edwards does not show the lower package and EDP as described in claim 1, and as discussed above in the discussion under claim 1. If after review of the argument, the Examiner intends to maintain the rejection, then Applicants respectfully request that these elements be more specifically pointed out in FIG. 1. Otherwise the rejection is clearly traversed because the showing of the asserted elements in Edwards has not been made.

In reconsidering the question, Applicants ask the Examiner to first determine whether Edwards' valves 39 and 40 are part of the lower package or part of the EDP. If valves 39 and 40 are not part of the lower package, but instead are part of the EDP, then after the well cap 58 is removed (see e.g. Col. 6, line 49) the well head would apparently be left exposed to the open

ocean in the event of an emergency that removed the EDP from the well, which may result in an environmental disaster. If valves 39 and 40 are part of the lower package, then there should be a mechanism positioned somewhere between the riser 36 and valves 39 and 40, which must then be part of the EDP. However, Edwards clearly does not disclose this mechanism.

Claim 5:

> In order to establish a prima facie case under 35 U.S.C. 103(a) all the claim limitations must be taught or suggested by the prior art. The showing must be clear and particular. See, e.g., *C.R. Bard*, 157 F.3d at 1352, 48 USPQ2d at 1232. See M.P.E.P. 2143.03.

The Office Action states Edwards FIG. 3 shows a first of two hydraulically activated valves with a fail safe actuator on one side of a valve body and a manual override mounted on an opposite side, as required by claim 5. However, the Office Action does not set forth any numbers on FIG. 3 or refer to any discussion in Edwards concerning these items. Applicants have electronically searched Edwards but does not find these terms. Referring to FIG. 3, Applicants see only circles 39 and 40, which do not show a fail safe actuator on one side of a valve body and a manual override mounted on an opposite side of the valve body. Applicants respectfully request that these elements be more specifically pointed out in FIG. 3, and that otherwise the rejection is clearly traversed because the showing is not clear and particular.

With all respect, Applicants submit that Edward simply does not show the elements required by claim 5.

Claims 6 and 13:

> In order to establish a prima facie case under 35 U.S.C. 103(a) all the claim limitations

must be taught or suggested by the prior art. The showing must be clear and particular. See, e.g., *C.R. Bard*, 157 F.3d at 1352, 48 USPQ2d at 1232. See M.P.E.P. 2143.03.

The Office Action incorrectly states that Edwards shows a first of the two hydraulically actuated valves described in claim 1, as being Edwards gate valve 70, which comprises a cutter and seal assembly as required by claims 6 and 13.

To begin with, Edwards does not say that gate valve 70 comprises a cutter. Because gate valve 70 is connected to the annulus and oriented laterally to the side, it cannot be determined why this gate valve would include a cutter. Certainly, Edwards does not say this.

Moreover, gate valve 70 is not in the bore of the well. Therefore, it cannot be ascertained how it would be possible to insert wireline, coiled tubing, and tubing through this valve as required by claims 1 and 7, to which claims 6 and 13 respectfully refer.

For example, if claim 6 refers back to claim 1, then gate valve 70 is not the same as the two ball valves 39, 40. Edwards specifically calls for ball valves, not gate valves, as the two valves described in claim 1. (See Edwards Col. 6, line 18.) Moreover, it is not clear how Edwards valves 39 and 40 could be replaced with gate valves, because the valves at issue must fit within connector 28 and housing 26.

If after reconsideration, the rejection is to be maintained, Applicants respectfully request the Examiner to more specifically point out the claim elements, such as by reference to numbers. Without any other explanation, the rejection is clearly traversed because the showing is not clear and particular, and with all respect, is submitted to be inaccurate.

Claim 7:

Argument 1 that the reference does not render Applicants' claim 7 obvious:

> In order to establish a prima facie case under 35 U.S.C. 103(a) all the claim limitations must be taught or suggested by the prior art. The showing must be clear and particular. See, e.g., *C.R. Bard*, 157 F.3d at 1352, 48 USPQ2d at 1232. See M.P.E.P. 2143.03.

The following elements are missing from Edwards. Accordingly, the rejection is believed to be clearly traversed.

1) Edwards plainly does not disclose the newly added claim element of a first of two hydraulically activated valves with a fail safe actuator mounted on one side of a valve body and a manual override mounted on an opposite side. As discussed above in connection with claim 5, the Office Action does not set forth any numbers on FIG. 3, which the Office Action broadly refers to, or refer to any specific discussion in Edwards concerning these items. Applicants have electronically searched Edwards, but do not find these terms. Referring to FIG. 3, Applicants see only circles 39 and 40, which do not show a fail safe actuator on one side of a valve body and a manual override mounted on an opposite side of the valve body. Applicants respectfully request that these elements be more specifically pointed out in the Edwards' specification, and that otherwise the rejection is clearly traversed because the showing is not clear and particular. With all respect, Applicants submit that Edwards simply does not show the elements now required by claim 7.

2) Edwards does not disclose valves with a bore greater than seven inches that are operable to cut tubing, in addition to wireline and coiled tubing. This is a major distinction, and it will be appreciated that such a limitation might be disastrous if Edwards were used with tubing and, in an emergency it was found that Edwards valves does not cut tubing or that smaller tubing must be used that are required by the operation at hand. Apparently, Edwards limits operation to a smaller valve and to safe use only with wireline and coiled tubing. So far as is known by Applicants, Applicants valves, which are shown in greater detail in a parent application and incorporated by reference in paragraph [0001] of the publication are the only known subsea valves, other than BOPs, which have been certified for offshore work in cutting tubing.

Because the above elements of claim 7 are not shown clearly and particularly, and in fact are not shown at all, the rejection is traversed.

Argument 2 that the reference does not render Applicants' claim 1 obvious:

> An obviousness analysis requires consideration of "whether the prior art would also have revealed that in so making or carrying out [the claimed invention], those of ordinary skill would have a reasonable expectation of success."; *In re Dow Chemical Co.*, 837 F.2d 469, 473, 5 USPQ2d 1529, 1531 (Fed. Cir. 1988).

The Office Action proposes that it is obvious to provide any size valve bore in the intervention package. The Office Action states that Applicants did not disclose that any particular size valve bore is related to particular problems or purposes.

Applicants respectfully submit that both of the above statements are incorrect.

For example, paragraph 7 of Applicants' published application begins with the sentence "The maximum internal diameter is a critical dimension for an intervention package..." Clearly, Applicants have pointed out the importance of this dimension.

Problems of providing the claimed dimension are well known, long standing, and difficult to those of skill in the art. In fact, so far as is known, Applicants' downhole valve is the only large bore valve, other than a BOP, to be certified as capable of cutting tubing, as well as coiled tubing and wireline. Yet the claim language clearly rules out the BOP as an option. The weight and size of the intervention package are obvious problems when designing valve internal bore size. Edwards is further restricted because valves 39 and 40 must fit within a housing 26 that must then fit within housing 28. For instance, the Examiner may wish to explain how Edwards will simply increase the size of connectors 24 and 28 in particular, as well as the other components, and still remain within the required weight range. It will also be appreciated that pressure acting on seals (which must also operate to cut without damaging the seals) increases exponentially with valve

diameter. This seal must be able to operate along with the cutting function, a problem that is greatly exacerbated with increased bore size. It is also well known that merely taking a large valve that works on the surface, sealing off the valve housing, and placing it in a subsea environment does not provide a solution because sea depth internal and external hydrostatic pressures operating on the valve components will normally render the valve inoperable either immediately or over time.

Edwards does not reveal how those of ordinary skill in the art will have a reasonable expectation of success in solving the above and/or many other problems that have not been previously solved. In fact, the Office Action concludes that Edwards does not disclose this element at all.

Recently published examination guidelines promulgated by the USPTO to assist Office personnel in making a proper determination of patentability of claims under the obviousness standards of 35 U.S.C. 103(a), and being based on *KSR International Co v Teleflex, Inc* require:

> The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reasons why the claimed invention would be obvious.

The guidelines set forth seven rationales to support an obvious rejection and findings of fact that must be articulated for each rationale. The guidelines do not set forth a rationale whereby it is obvious to one of skill in the art to make a modification that overcomes a difficult, long-standing, unsolved problem without any explanation as to how one of skill will overcome the problem. Neither the Office Action nor Edwards provide any teachings or explanation, as is required to explain how the solution to such a difficult, long-standing problem can be solved by merely changing dimensions or other routine experimentation, when that procedure has clearly not yielded results in the past. Accordingly, the rejection is respectfully traversed.

Claim 8: (Discussed hereinbefore)

Claim 9:

1) Edwards does not disclose any details of an emergency disconnect package (EDP) as required in claim 9. Edwards casually mentions that his device might include an EDP in col. 9, lines 48-50, in a housing between "the structural housing (Applicants presume housing 28 but cannot be sure) and the riser 36. In any case, it is extremely clear that Edwards does not show a hydraulically actuated valve as part of the EDP (in addition to the two large bore valves which Applicants also claim as part of the lower package. Moreover, Edwards does not tell us whether his two valves 39 and 40 are part of the EDP or not. Presumably, instead Edwards intends to use valves 39 and 40 to seal off the borehole if there is a need for use of an emergency disconnection. To leave the borehole open by removing the EDP with valves 39 and 40 therein would appear to be environmentally disastrous. However, Edwards provides no specific explanation as to the claimed components.

2) Edwards does not show a disconnect mechanism comprising a first portion and a second portion, which portions are selectively separable as claimed. In fact, Edwards does not show any details of a disconnect mechanism.

Accordingly, Edwards clearly does not show a connection between this first portion of the disconnect mechanism to a lower package, as lower package is defined by claim 7. Edwards clearly does not show a connection between the second portion of the disconnect mechanism and an emergency disconnect package, as emergency disconnect package is defined by claim 9.

3) If Edwards two valves 39 and 40 are part of the EDP, which Edwards does not state one way or the other, then Edwards does not show Applicants' two large bore valves within a lower package. Edwards valves 39 and 40 cannot be part of the EDP and simultaneously also be part the lower package, because this would not satisfy the language of Applicants claim 1. According to Applicants claim 1, there must be two large bore valves located in the lower riser package, which must be separable from the EDP using the specified type of disconnect mechanism

specifically described in claim 1.

4) Edwards does not disclose large bore valves that are operable to cut tubing, in addition to wireline and coiled tubing. This is a major distinction, and it will be appreciated that such a limitation might be disastrous if Edwards were used with tubing and, in an emergency, it was found that Edwards valves does not cut tubing. Apparently, Edwards limits operation to safe use only with wireline and coiled tubing. So far as is known by Applicants, Applicants' valves, which are shown in greater detail in a parent application, are the only known subsea valves, other than BOPs, which have been certified for offshore work in cutting tubing.

Because the above elements of claim 1 are not shown clearly and particularly, and in fact are not shown at all, the rejection is traversed.

Claim 10: (Discussed hereinbefore)

Claim 11: (Discussed hereinbefore)

Claims 12 and 24:

These claims are new. However, the claimed features are not obvious over Edwards for the following reasons:

> An obviousness analysis requires consideration of "whether the prior art would also have revealed that in so making or carrying out [the claimed invention], those of ordinary skill would have a reasonable expectation of success."; *In re Dow Chemical Co.*, 837 F.2d 469, 473, 5 USPQ2d 1529, 1531 (Fed. Cir. 1988).

Edwards clearly does not disclose the capability of providing that the at least two valves described in parent claims 1 and 7 are capable of repeatably cutting 2 3/4" tubing without maintenance (see for instance paragraphs 14, 41, as well as paragraph 1), which

incorporates entirely by reference the teachings of the parent patents that more specifically describe a valve capable of this functioning. The significant benefits of this feature are readily apparent to one of skill in the art because it is extremely costly to remove the intervention package to maintain the valves.

So far as is known, Applicants' downhole valve is the only subsea valve with a bore greater than 7 inches, other than a BOP to be certified as capable of repeatedly cutting 2 3/4" tubing, as well as coiled tubing and wireline. However, even BOPs which are much heavier than Applicants gate valves, are known to normally require maintenance after cutting with the same set of rams. Yet the claim language rules out the BOP as an option even though the BOP performance is inferior. The weight and size of the intervention package are obvious limitations to valve internal bore size and the problem of repeated cutting. Edwards is further restricted because valves 39 and 40 must fit within a valve housing that must then fit within housing 28. For instance, the Examiner may wish to explain how Edwards will simply increase the size of connectors 24 and 28 in particular, as well as the other components, and still remain within the required weight range. It will also be appreciated that pressure acting on seals (which must also operate to cut) increases exponentially. This seal must be able to operate along with the cutting function, a problem that is greatly exacerbated with increase bore size. Edwards does not reveal how those of ordinary skill in the art can expect to have a reasonable expectation of success in solving the above problems. The only approximate solution prior to Applicants' design is the BOP, and even that normally requires maintenance after cutting.

Recently published examination guidelines promulgated by the USPTO to assist Office personnel in making a proper determination of patentability of claims under the obviousness standards of 35 U.S.C. 103(a), and being based on *KSR International Co v Teleflex, Inc* require:

> The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reasons why the claimed invention would be obvious.

The guidelines set forth seven rationales to support an obvious rejection and findings of fact that must be articulated for each rationale. The guidelines do not set forth a rational whereby it is obvious to one of skill in the art to make a modification that overcomes well known but previously unsolved problems without any explanation as to how one of skill overcomes such problems. Neither the Office Action nor Edwards provide any teachings or explanation, as is required to explain how the solution to such a difficult, long-standing problem can be solved by merely changing dimensions or other routine experimentation, when that procedure has clearly not yielded results in the past. Accordingly, the rejection is respectfully traversed.

Claim 13: (Discussed hereinbefore)

Claims 25 and 26:

These claims are new. However, the claimed features are not obvious over Edwards for the following reasons:

> In order to establish a prima facie case under 35 U.S.C. 103(a) all the claim limitations must be taught or suggested by the prior art. The showing must be clear and particular. See, e.g., *C.R. Bard*, 157 F.3d at 1352, 48 USPQ2d at 1232. See M.P.E.P. 2143.03.

Edwards does not disclose use of an independent supply of hydraulic fluid mounted on the lightweight subsea intervention package. Accordingly, it is respectfully submitted there is no basis for a rejection over Edwards.

Claims 27, 28, and 30:

These claims are new. However, the claimed features are not obvious over Edwards for the following reasons:

> In order to establish a prima facie case under 35 U.S.C. 103(a) all the claim limitations must be taught or suggested by the prior art. The showing must be clear and particular. See, e.g., *C.R. Bard*, 157 F.3d at 1352, 48 USPQ2d at 1232. See M.P.E.P. 2143.03.

Edwards does not disclose an emergency disconnect package that is replaceable with a subsea lubricator. Accordingly, it is respectfully submitted there is no basis for a rejection over Edwards.

Claim 29:

These claims are new. However, the claimed features are not obvious over Edwards for the following reasons:

> In order to establish a prima facie case under 35 U.S.C. 103(a) all the claim limitations must be taught or suggested by the prior art. The showing must be clear and particular. See, e.g., *C.R. Bard*, 157 F.3d at 1352, 48 USPQ2s at 1232. See M.P.E.P. 2143.03.

As discussed above in connection with claims 6, and 13, the Office Action incorrectly states that Edwards shows a first of the two hydraulically actuated valves described in claim 1, as being Edwards gate valve 70, which comprises a cutter and seal assembly as required by claim 29.

To begin with, Edwards does not say that gate valve 70 comprises a cutter. Because gate valve 70 is connected to the annulus and oriented laterally to the side, it cannot be determined why this gate valve would even include a cutter. Certainly, Edwards does not say this.

Moreover, gate valve 70 is not in the bore of the well. Therefore, it cannot be ascertained how it would be possible to insert wireline, coiled tubing, and tubing through this valve as required by claims 1 and 7, to which claim 29 respectfully refers.

Edwards gate valve 70 is not the same as Edwards' two ball valves 39, 40. Edwards specifically calls for ball valves, not gate valves, as the two valves described in claim 29. (see Edwards Col. 6, line 18.) Moreover, it is not clear how Edwards valves 39 and 40 could be replaced with gate valves because they must fit within connector 28 and housing 26.

If after reconsideration, the rejection is to be maintained, Applicants respectfully request the Examiner to more specifically point out the claim elements, such as by reference to numbers. Without any other explanation, the rejection is clearly traversed because the showing is not clear and particular, and with all respect, is submitted to be inaccurate.

2) The Office Action already states that Edwards does not disclose gate valves for use in the lower package with an internal diameter of greater than 7 inches.

3) The Office Action already stated that Edwards does not teach a lower package in the weight range described.

4) Edwards clearly does not disclose a valve greater than 7 inches capable of cutting 2 3/4 inch tubing.

> An obviousness analysis requires consideration of "whether the prior art would also have revealed that in so making or carrying out [the claimed invention], those of ordinary skill would have a reasonable expectation of success."; In re Dow Chemical Co., 837 F.2d 469, 473, 5 USPQ2d 1529, 1531 Fed. Cir. 1988

The Office Action previously proposed with respect to other claims that it is obvious to provide any size valve bore in the intervention package and that it is obvious to make the lower package to be any weight. The Office Action states that Applicants did not disclose that any particular size valve bore is related to particular problems or purposes.

Both of the above statements are incorrect. Looking at Applicants published application, paragraph 7, it is stated that "The maximum internal diameter is a critical dimension for an intervention package..." Moreover, the problem with weight of the intervention package is discussed in paragraph 8 but also throughout the application. Being able to cut 2 3/4 inch tubing provides significantly greater usefulness of the intervention package.

So far as is known, Applicants' downhole valve is the only large bore valve, other than a BOP, to be certified as capable of cutting 2 3/4" tubing, as well as coiled tubing and wireline. Yet the claim language rules out the BOP as an option because it calls for gate valves. The weight and size of the intervention package are obvious limitations to valve internal bore size. Edwards is further restricted because valves 39 and 40 must fit within a valve housing that must then fit within housing 28. For instance, the Examiner may wish to explain how Edwards will simply increase the size of connectors 24 and 28 in particular, as well as the other components, and still remain within the required weight range. It will also be appreciated that pressure acting on seals (which must also operate to cut) increases exponentially with valve diameter. This seal must be able to operate along with the cutting function, a problem that is greatly exacerbated with increased bore size. It is also well known that merely taking a large valve that works on the surface, sealing off the valve housing, and placing it in a subsea environment does not provide a solution because the internal and external pressures operating on the valve components will normally render the valve inoperable.

Edwards does not reveal how those of ordinary skill in the art can expect to have a reasonable expectation of success in solving the above and/or many other potential problems. In fact, the Office Action concludes that Edwards does not disclose this element at all.

Recently published examination guidelines promulgated by the USPTO to assist Office personnel in making a proper determination of patentability of claims under the obviousness standards of 35 U.S.C. 103(a), and being based on *KSR International Co v Teleflex, Inc* require:

> The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reasons why the claimed invention would be obvious.

The guidelines set forth seven rationales to support an obvious rejection and findings of fact that must be articulated for each rationale. The guidelines do not set forth a rational whereby it is obvious to one of skill in the art to make a modification that overcomes well known previously unsolved problems without any explanation as to how one of skill overcomes such problems. Neither the Office Action nor Edwards provide any teachings or explanation, as is required to explain how the solution to such a difficult, long-standing problem can be solved by merely changing dimensions or other routine experimentation, when that procedure has clearly not yielded results in the past.

Accordingly, Applicants respectfully submit that the application now stands in condition for allowance.

Respectfully submitted,

Kenneth L. Nash
Reg. No. 34,399

Date: 1/16/08

Law Office of Kenneth L. Nash
P.O. Box 680106
Houston, TX 77268-0106
Tel: (281) 583-1024
Fax: (281) 397-6929
Email: nash.kenneth@gmail.com

CERTIFICATE OF ELECTRONIC TRANSMISSION

I hereby certify that this correspondence is being electronically transmitted via EFS-Web to the U.S. Patent & Trademark Office, Commissioner for Patents, Alexandria, VA, 22313-1450, on the 16th day of January, 2008.

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